

Work Order ID 143863

March 24, 2016 11:29:50 AM

143863

Page 1

Item ID: D205-634-145 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Replacement Skidtube with Thru-Bolt Standard Wearplates Fits LH or RH
Start Date: ~~3/21~~ 4/14/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/14/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference: 21

Approvals: Process Plan: SH Date: 20160324 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2580-049	G								
IIN-D205-634	REV H								

100

Document Control
DOCUMENT CONTROL

0.00

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DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy D205-634 bluefile & type labels per PPP D205-634-145 CHG001

BAS
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9-89

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110

Skidtubes

0.00

110

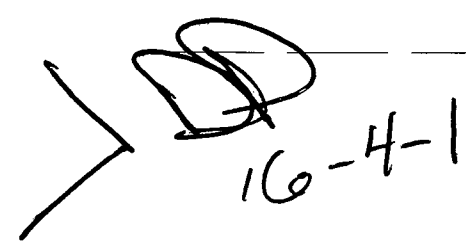
Skidtubes

Memo

0.01

Skidtubes

1- PICK D2580-1

2- SPOT DRILL 2 AFT RUN ON WEARPLATE HOLES USING DT10021,
DRILL 3.630" HOLES USING DT8462 (83.94" FROM AFT OF D2580-1 REF.
ONLY)

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐ _____					

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Item ID: D205-634-145 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Replacement Skidtube with Thru-Bolt Standard Wearplates Fits LH or RH
Start Date: 3/31/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/14/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	BENDING MACHINE - SKIDTUBES	0.00							
120									
CNC Bend 1	Memo	0.01							
CNC Delta 100 Bender	1-Bend as per program D2580.C on CNC Bender and Folio FT 16								
	2-Cut tubes as per Dwg. D2580								
	3- Scribe batch# in aft end of tube								
130	Skidtubes	0.00							
130									
Skidtubes	Memo	0.04							
	1-Deburr ends after cutting and remove bending marks. Prepare tube for welding D2576-3 step remove alodine as required.								
	2-Locating from most fwd saddle hole, drill most fwd wearplate hole using DT9793 (10.832 REF) as per dwg D2580 sheet 7.								
	3-Open run-on wearplate holes to finished size 0.508" at locations (5.338/ 5.985/ 10.832/ 3.63 REF) as per dwg D2580 sheet 7.								
	4-Drill pilot holes for aft cap using DT8215, Open to finished size.								

Handwritten signature and date: 16-4-4

Handwritten signature and date: 16-4-5 LH

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Item ID: D205-634-145 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Replacement Skidtube with Thru-Bolt Standard Wearplates Fits LH or RH
Start Date: 3/31/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/14/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	DAS 18 9-89
140	QC5- Inspect part completeness to step on W/O	0.00								
140										
QC	Memo	0.00								
Quality Control										
150		0.00								
150										
Skidtubes										
	Memo	0.02								
Skidtubes	1-Weld step D2576 as per Dwg. D2580 and QSI 004 A/R Aluminum Rod <i>M133810</i> <i>7 BE16-04-05</i> - Grind welds flush.									
	2-Touch up alodine on run on wearplate holes prior to swaging									
	3- Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and as per dwg									
	4-DRILL TOWING HOLE USING DT8091									
	5-DEBURR									

16-4-5
JK

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process								
Misidentified ☐	☐	Past Due								
			☐ OTHER : _____							

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Item ID: D205-634-145

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube with Thru-Bolt Standard Wearplates Fits LH or RH

Stop ***NS2***Start Date: 3/31/2016 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 4/14/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC10- Inspect visual per QSI004- ground welds	0.00							DAS 16 9-89 Welds
160									
QC	Memo	0.00							
Quality Control									
170	QC5- Inspect part completeness to step on W/O	0.00							DAS 16 9-89 Welds
170									
QC	Memo	0.00							
Quality Control									
180	Pressure Wash per QSI005 4.3	0.00							
180									
HandFinish	Memo	0.01							
Hand Finishing	And realodine tube as per QSI 005								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

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Item ID: D205-634-145 Accept *N900040100* Setup Start *NS1*

Revision ID:

Item Name: Replacement Skidtube with Thru-Bolt Standard Wearplates Fits LH or RH Stop *NS2*

Start Date: 3/31/2016 Start Qty: 1.00 *1*

Required Date: 4/14/2016 Req'd Qty: 1.00 *1*

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
190	<i>M 134 371</i>								
Powdercoat	Memo	0.00							
Powder Coating	START TIME: <i>8:30</i>								
	OVEN TEMPERATURE: <i>325</i>								
	FINISH TIME: <i>9:00</i>								
200	QC3- Inspect Part Finish	0.00							
200									
QC	Memo	0.00							
Quality Control									

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 143863

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Item ID: D205-634-145 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Replacement Skidtube with Thru-Bolt Standard Wearplates Fits LH or RH
 Start Date: 3/31/2016 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 4/14/2016 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	Assemble as per dwg	0.00							
210	HandFinishing								
Hand Finish	Memo	0.02							
Hand Finishing	1-Install inserts & wearplates as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates A/R Sikaflex-291 <u>M1134487</u> Sikaflex expire date: <u>16112</u>								
	2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594								
	3- Install aft cap as per dwg								
	4- Wing walk as per dwg Batch# <u>M113417J</u>								
220	QC5- Inspect part completeness to step on W/O	0.00							
220	QC								
Quality Control	Memo	0.00							
	Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024								

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WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval 	
Description Work Order Deviation		Disposition			
				Completed By _____	
				Lead hand / Supervisor Approval Verification _____	
				QC / QA Coordinator Approval _____	

Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

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Start Date: 3/31/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/14/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230		0.00							
230	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPPD205-634-145 Location : FG073								
240	QC21- Final Inspection - Work Order Release	0.00							
240									
QC	Memo	0.00							
Quality Control									

APR 15 2016

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MLJ APR 15 2016

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
☐ OTHER : _____					

Picklist Print

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Page 1

Work Order ID: 143863

143863

Parent Item: D205-634-145

D205-634-145

Parent Item Name: Replacement Skidtube with Thru-Bolt Standard Wearplates Fits LH or RH

Start Date: 3/31/2016

Required Date: 4/14/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 14.04.23 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2580-1 *D2580-1* 205 Bent Tube		Manufactured	No		143867		Each	0.0000	**	① 1		16-4-1	
D4202-1 *D4202-1* Spacer		Manufactured	No				Each	697.0000	**	24		16-4-5/4	
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				LG001			697					24	
				141110			184						
				141708			513						
D2594-1 *D2594-1* Plug		Manufactured	No				Each	189.0000	**	8		16-4-5/4	
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				FP001			189						
				119830			68		B142475			x8	
				134804			16						
				135914			13						
				138397			28						
				141080			30						
				42807			27						
				88922			7						
D2576-3 *D2576-3* Step (Machining Detail)		Manufactured	No				Each	3.0000	**	1		BE/6-04-05	
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				LG001			3						
				136730			3						
				742985									
				142485					x1				

Picklist Print

Page 2

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Work Order ID: 143863

143863

Parent Item: D205-634-145

D205-634-145

Parent Item Name: Replacement Skidtube with Thru-Bolt Standard Wearplates Fits LH or RH

Start Date: 3/31/2016

Required Date: 4/14/2016

Start Qty: 1.00

Required Qty: 1.00

D2594-3

Manufactured No

Each

742.0000

8

D2594-3

**

O-Ring

LocationLoc QtyLoc Code

FP001

742

134838

116

135859

24

137829

118

138060

30

140770

154

141703

300

x 8

D2855

Manufactured No

Each

67.0000

1

D2855

**

Cap

LocationLoc QtyLoc Code

FP001

67

134027

32

137568

35

x 1

AN3-5A

Purchased No

Each

408.0000

2

AN3-5A

**

Bolt

LocationLoc QtyLoc Code

FP001

34

m133686

2

m134055

32

x 2

GA

8

m133686

8

ST350

366

m134055

66

m134502

300

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Page 2

Picklist Print

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Page 3

Work Order ID: 143863

143863

Parent Item: D205-634-145

D205-634-145

Parent Item Name: Replacement Skidtube with Thru-Bolt Standard Wearplates Fits LH or RH

Start Date: 3/31/2016

Required Date: 4/14/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0332J

Purchased

No

Each

1,826.000

2

NAS1149D0332.J

Washer

**

Handwritten signature and date 16/04/14

Location

Loc Qty

Loc Code

CA
m129682

14
14

GA
m132677

110
110

ST260a
m133988
m134502

1600
600
1000

ST266
m133498

102
102

x2

D5061-1

Manufactured

No

Each

3.0000

1

D5061-1

Fwd Wearplate

**

Handwritten signature and date 16/04/14

Location

Loc Qty

Loc Code

FP002
134570

3
3

B143863

x1

D5061-3

Manufactured

No

Each

4.0000

1

D5061-3

Aft Wearplate

**

Handwritten signature and date 16/04/14

Location

Loc Qty

Loc Code

FP002
134568

4
4

x1

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Page 3

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Page 4

Work Order ID: 143863

143863

Parent Item: D205-634-145

D205-634-145

Parent Item Name: Replacement Skidtube with Thru-Bolt Standard Wearplates Fits LH or RH

Start Date: 3/31/2016

Required Date: 4/14/2016

Start Qty: 1.00

Required Qty: 1.00

AN4-45A

Purchased

No

Each

34.0000

8

AN4-45A

BOLT

HL 16/04/14

Location

Loc Qty

Loc Code

FP001

4

m133077

4

M134606

XG

over004

30

m134134

30

D2570

Manufactured

No

Each

77.0000

16

D2570

Bushing

HL 16/04/14

Location

Loc Qty

Loc Code

FG

12

88781

12

B141497

X16

FP001

5

138946

5

ST008

60

138946

60

MS21042-4

MS21042L4

Purchased

No

Each

2.0000

8

MS21042-4

Nut / use MS21042L4

HL 16/04/14

Location

Loc Qty

Loc Code

ST304

2

9063

2

M133363

XG

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Page 4

LIST OF MATERIALS						
ITEM	QTY -041	QTY -045	QTY -047	QTY -049	PART NUMBER	DESCRIPTION
1	X				D2580-041	SKIDTUBE ASSEMBLY
2		X			D2580-045	SKIDTUBE ASSEMBLY
3			X		D2580-047	SKIDTUBE ASSEMBLY
4				X	D2580-049	SKIDTUBE ASSEMBLY
20	1	1	1	1	D2500-1-190	EXTRUSION
21			16	16	D2570	BUSHING
22	1	1	1	1	D2576-3	STEP
23		4			D2579	SPACER
24	16	16	8	8	D2594-1	PLUG
25	16	16	8	8	D2594-3	O-RING
26	1	1	1	1	D2596	205 WEB
27	1	1	1	1	D2855	AFT CAP
28	1	1			D3564-5	WEARSHOE
29	1	1			D3564-9	WEARSHOE
30	1	1			D3564-11	WEARSHOE
31	1	1			D3564-13	WEARSHOE
32	2	2			D3566-1	GASKET
33	1	1			D3566-5	GASKET
34	1	1			D3566-13	GASKET
35	20	20	24	24	D4202-1	SPACER
36			1		D4406-041	WEARPLATE ASSEMBLY
37			1		D4406-043	WEARPLATE ASSEMBLY
37				1	D5061-1	FWD WEARPLATE
37				1	D5061-3	AFT WEARPLATE
50	50	50			ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
51	50	50			AN3C4A	BOLT
52	2	2	2	2	AN3-5A	BOLT
53			8	8	AN4-45A	BOLT
54	50	50			NAS1149C0332R	WASHER (AN960C10L)
55	2	2	2	2	NAS1149D0332J	WASHER (AN960JD10L)
56			8	8	MS21042-4	NUT (OR MS21042L4)

GENERAL NOTES:

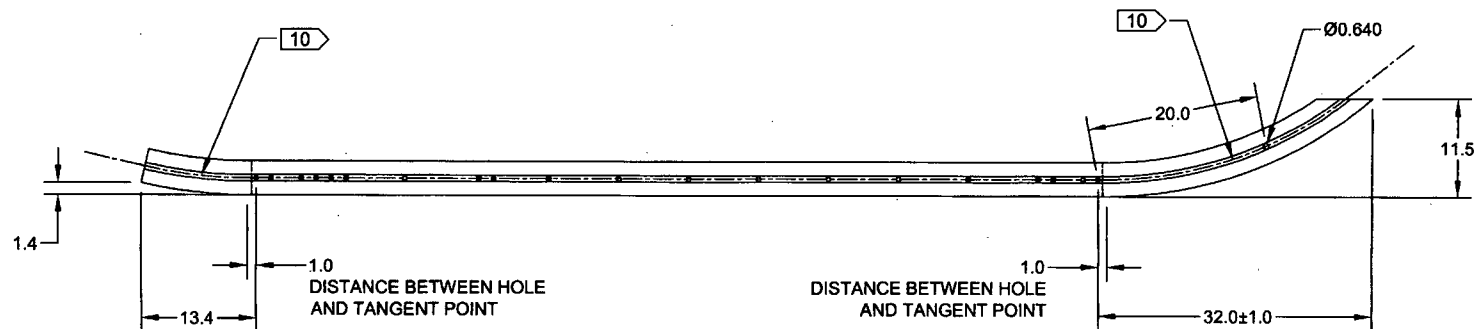
- MATERIAL: N/A
- FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY (-041/-047/-049) GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3 POWDER COAT ASSEMBLY (-045) GREEN SANDTEX (REF 4.3.5.8) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4.
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: NONE
- WEIGHT: D2580-041 = 34.5 lbs
D2580-045 = 34.5 lbs
D2580-047 = 45.1 lbs
D2580-049 = 32.0 lbs
- WELDING PER DART QSI 004.
- INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- USE DART DRILL TEMPLATE DT8217 & DT8937 ONLY FOR D2580-041/-045 TO LOCATE AND DRILL Ø0.287 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTIONS B-B AND F-F (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/-291.
- INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES FOR D2580-041/-045 AND 8 PLACES FOR D2580-047/-049)
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

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2014-04-29

20160324

SH 143863

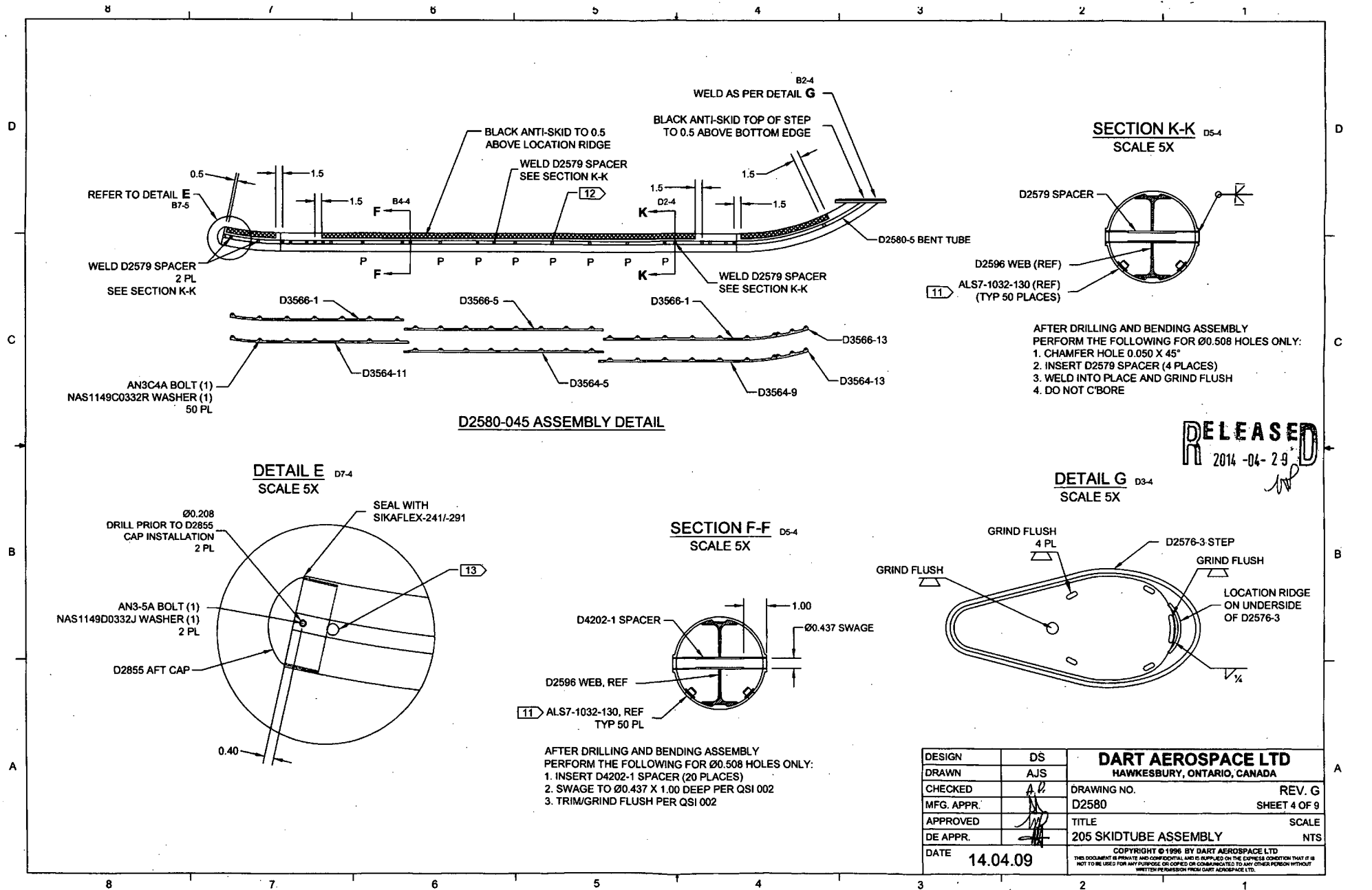
G	ADDED -049, -047 WEIGHT UPDATED PER DSI 9598	AJS	14.04.09
F	INCORPORATE DEO D2580-E-1 PER PAR12-218	DC	13.06.20
E	ADD D2580-047 (ZN C4-7) AND D2580-7 (ZN B3-8); INCLUDED DEO D2580-D-1; REFORMATTED DRAWING TO CURRENT STANDARDS; DT8217 & DT8937 WAS TD2577-205 (ZN C4-1)	RF	11.06.21
D	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/ 9183	PH	07.04.05
C	REDRAWN, INCLUDED DEO 9094/ 9097	CP	98.08.26
B	AS MANUFACTURED	DS	96.12.02
A	NEW ISSUE	DS	96.09.16
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	A.P.	DRAWING NO.	REV. G
MFG. APPR.	DS	D2580	SHEET 1 OF 9
APPROVED	MA	TITLE	SCALE
DE APPR.	MA	205 SKIDTUBE ASSEMBLY	NTS
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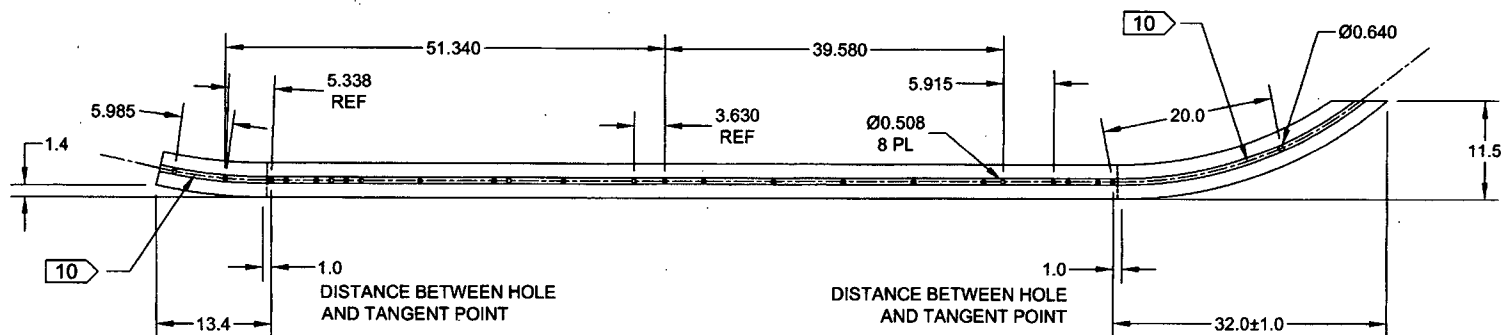


D2580-1 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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DESIGN	DS	DART AEROSPACE LTD	
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MFG. APPR.		D2580	SHEET 3 OF 9
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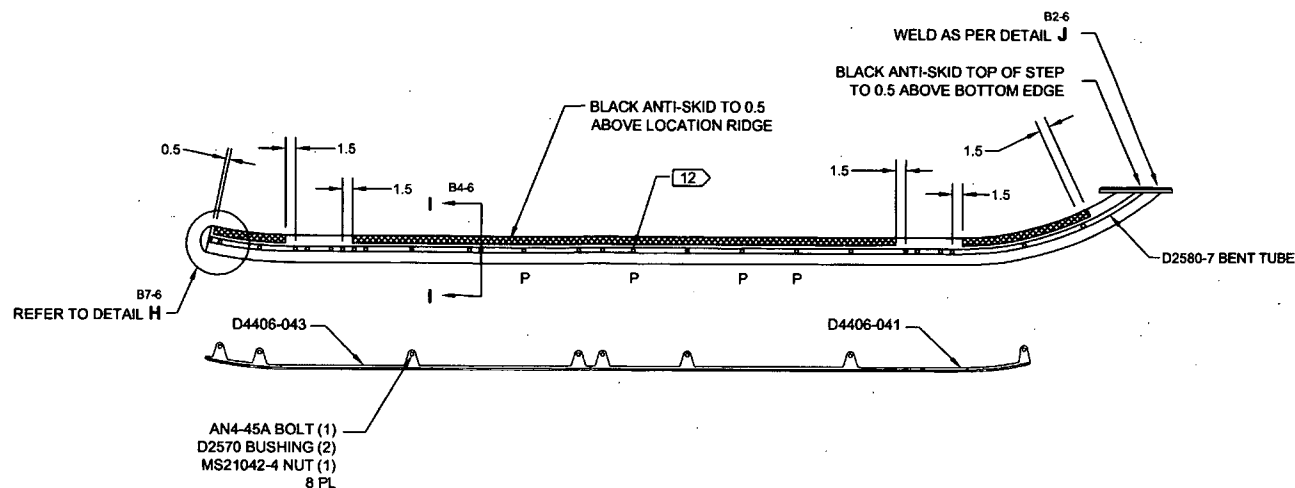




D2580-5 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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W

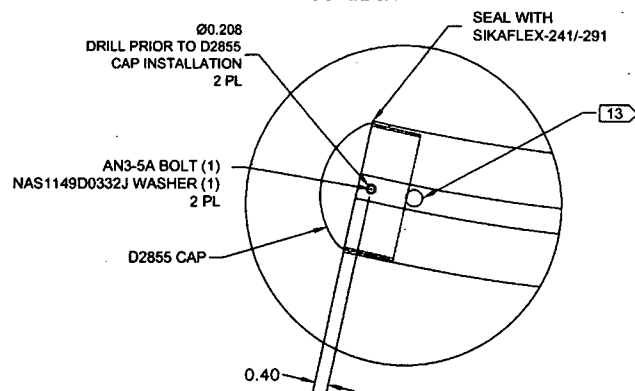
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DRAWN	AJS		
CHECKED	<i>A.P.</i>	DRAWING NO. D2580	REV. G
MFG. APPR.	<i>[Signature]</i>		SHEET 5 OF 9
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	205 SKIDTUBE ASSEMBLY	NTS
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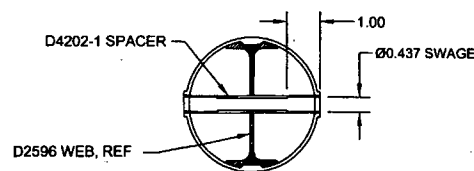
D2580-047 ASSEMBLY DETAIL

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DETAIL H C6-6
SCALE 5X

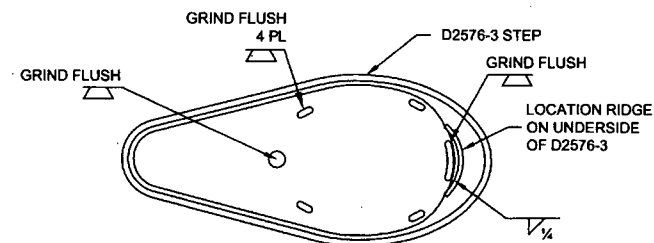


SECTION I-I D5-6
SCALE 5X

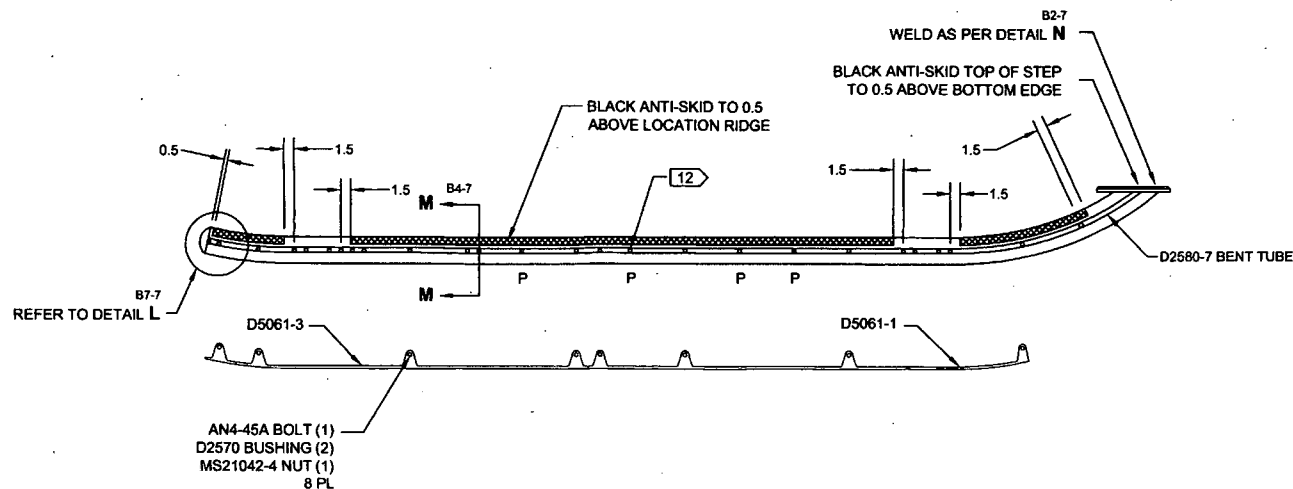


AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. INSERT D4202-1 SPACER (24 PLACES)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM/GRIND FLUSH PER QSI 002

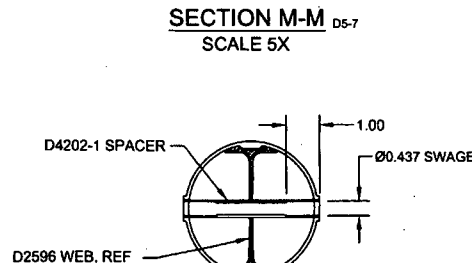
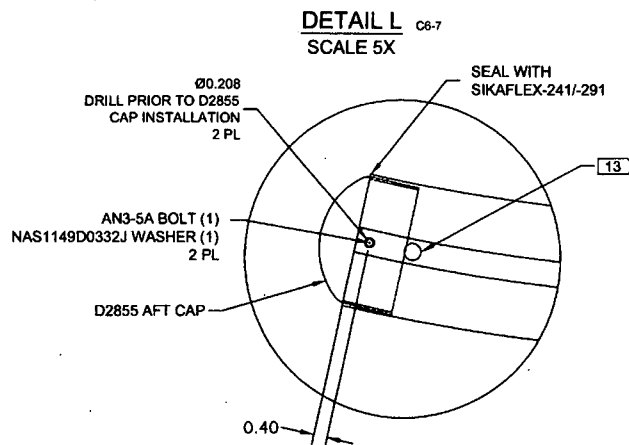
DETAIL J D3-6
SCALE 5X



DESIGN	DS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A.P.	DRAWING NO.	REV. G
MFG. APPR.		D2580	SHEET 6 OF 9
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DE APPR.		205 SKIDTUBE ASSEMBLY	NTS
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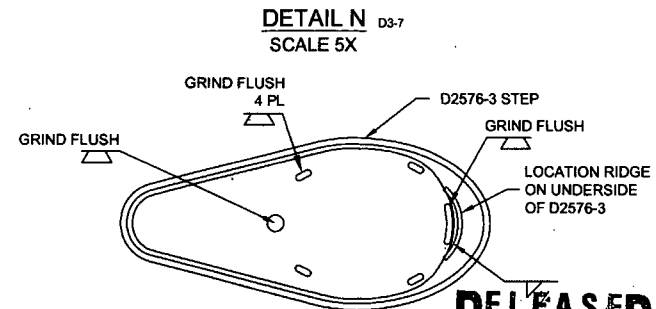


D2580-049 ASSEMBLY DETAIL



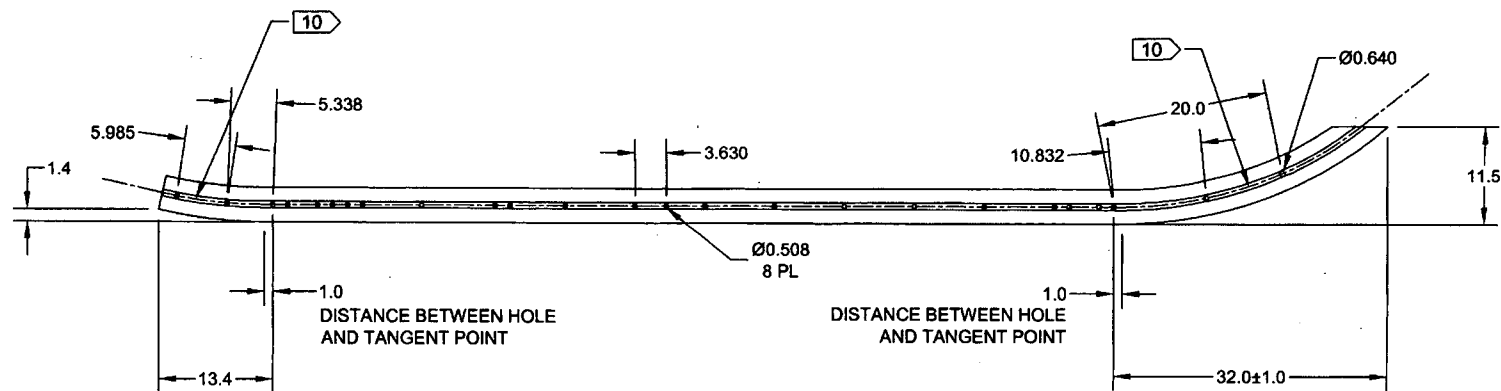
AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. INSERT D4202-1 SPACER (24 PLACES)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM/GRIND FLUSH PER QSI 002



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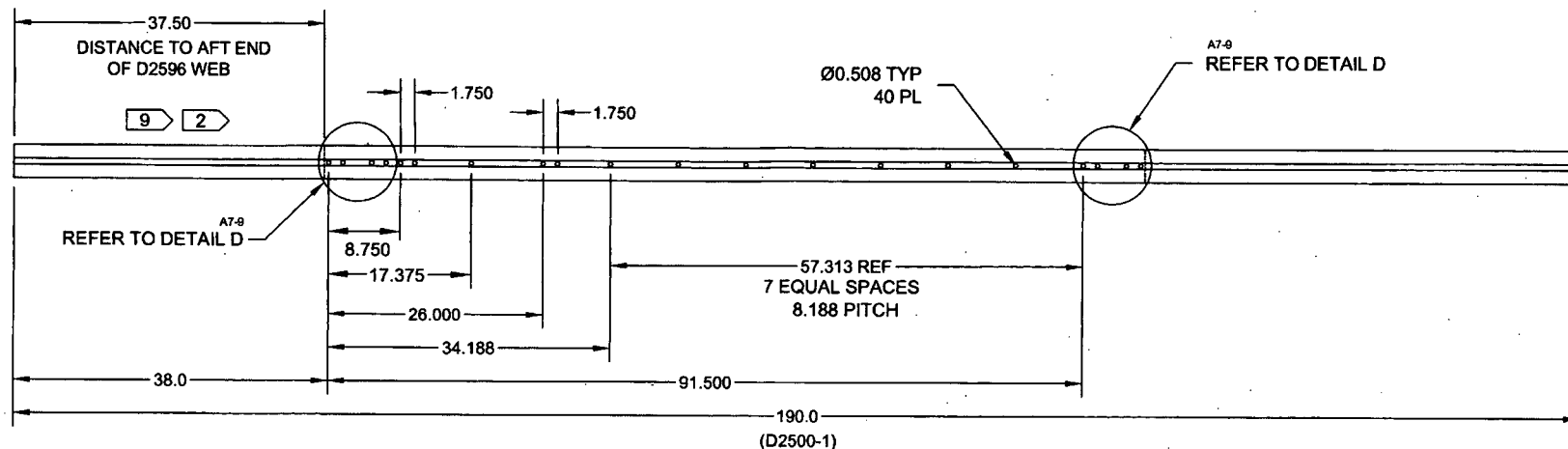
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DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A.P.	DRAWING NO.	REV. G
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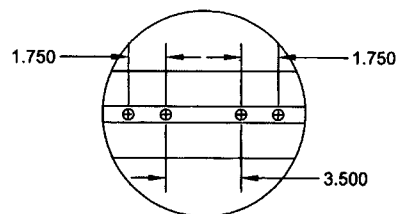
D2580-7 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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2014-04-29
WJ

DESIGN	DS	DART AEROSPACE LTD	
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CHECKED	A.P.	DRAWING NO.	REV. G
MFG. APPR.		D2580	SHEET 8 OF 9
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D2580-101 TUBE



DETAIL D C3-9
SCALE 5X C7-9

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2014-04-29
WMO

DESIGN	DS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A.P.	DRAWING NO.	REV. G
MFG. APPR.	M	D2580	SHEET 9 OF 9
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